



# GOODWINCH LIMITED

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Importers, Exporters, Wholesale Distributors and Retailers of  
**Winches and Accessories**

Distributors of Dyneema® Bowrope 12 strand synthetic fibre winch rope

Manufacturers of Commercial Portable Twin Capstan Winches

European Distributors of Kingone Winches

Company Registration No. 4392946  
VAT No. 540 4303 88

## BOWMOTORS

Thank you for purchasing a **BOWMOTOR** which can be fitted to all X9, EP, TDS and nearly all Warn winches other than the now obsolete HS9500.

Our **BOWMOTORS** have been designed for the serious off-roader requiring both high power and high speed. We hope you are pleased with its performance. Congratulations on your choice.

With the appropriate battery and alternator system, these **BOWMOTORS** will provide tremendous pulling power and a very high drum speed at no-load when respooling the wire rope back on to the drum. Great care must be taken to keep the gloved hands at least one metre away from the roller fairleads when respooling the wire rope. This is in case your gloves get caught by a frayed spike of wire rope which could drag your hand rapidly towards the roller fairleads. **YOU HAVE BEEN WARNED!**

Perhaps now is the time to consider using **Dyneema® Bowrope** Synthetic Fibre strand winch rope.

Also, never allow the **BOWMOTOR** to 'over speed' or run in a no-load situation for too long as the armature could become damaged through revolving too fast.

In a normal 'nominal' half-load off-road winching scenario, the **BOWMOTOR** armatures revolve at about 4,000 rpm, but at no-load with the gearbox in 'FREESPOOL' with a well sorted electrical system the armatures will turn at around 11,000 RPM, like a turbine!



*Although this shows an Iskra motor from a Husky winch, this is what can happen if you allow a winch to overspeed!*

Please do not allow this to happen. Only run the motor to turn the gearbox to either pull in, pay out, or respool the wire rope.

This is one reason why you must have a drum brake in the winch to slow you down, or to hold yourself or another vehicle when lowering down a steep hill. If you didn't have a brake, the weight would back feed through the gears and would actually drive the motor armature at around 15,000 RPM. This would not only damage the motor, with the balance weights detaching themselves from the armature, but can also damage the vehicle alternator, as the motor will act as a generator and back feed it and vehicle electrics to

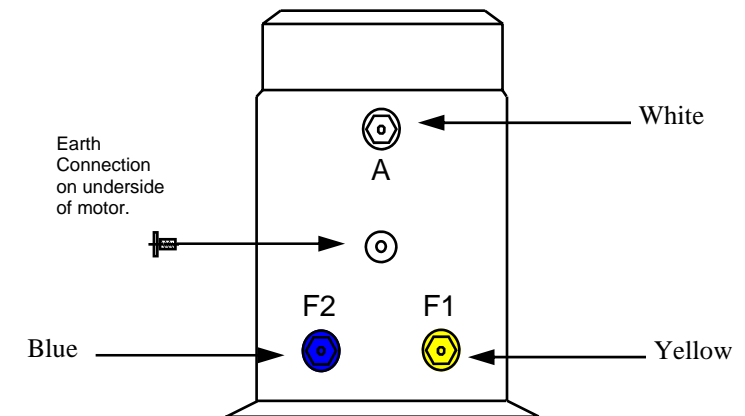
To further increase the reliability and longevity of your new **BOWMOTOR** don't let it run too hot.

If during winching it appears to get very hot and you can't keep your thumb on the body of the motor - let it cool down. Maybe your load is snagged by a root, stump or rock under the vehicle, or perhaps you have been winching for far too long. Sort out the problem, give it a rest - or get out the Swingaway Snatch Block to halve the load.

Never allow the winch to come to a 'STALL' situation, because if you did let this happen, it's goodbye motor!

### Wiring up BOWMOTORS

If you are replacing your existing series wound motor on your winch, you may find that the three terminals marked F1, F2 and A on the top are laid out differently. On some motors 'A' is marked



The earth terminal is underneath the motor, and a length of copper welding cable must be connected between this terminal and the battery earth. Do not rely on the vehicle's chassis as an earth return as there is far too much resistance in the circuit through the rust, moisture and many connections. All connecting terminals in the winch system must be double crimped with a hexagonal crimping machine using 35mm<sup>2</sup> copper welding cable.

### WARNING

If terminals F1 and F2 are inadvertently switched over, the motor will run in the reverse direction. If terminal 'A' is connected incorrectly the motor may be permanently damaged.

### LOADS OF POWER

Don't expect to get the best out of your winch system if you haven't got sufficient battery and alternator back up.

To attain this you will need a good battery set up - say a 12 volt type 663 battery giving 105 Amp hour (770 cold cranking amps) wired in with 35mm sq welding cable and backed up with at least an 85—100 amp alternator.

To compliment the **BOWMOTOR**, it is also recommended that a set of Albright heavy duty protected solenoids are purchased at the same time to maximise both reliability and longevity. These are £59 per set + VAT.

### WARNING

The fitting of a **BOWMOTOR** to an existing winch could damage it through any inherent weakness in the driveshaft, couplings, gearbox, or through the use of an undersize wire rope.

No responsibility can be accepted by David Bowyer, Goodwinch Limited or any staff, in any failings howsoever caused by re-motoring an existing winch through possible over-powering.

David Bowyer.